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Schlumberger

Final Survey - Cimarex Riverbend 12-13 Federal Com #30H MWD 0ft-20738ft (Surcon Corrected) Final Survey Geodetic Report (Def Survey)

CIMAREX

30.015-45022

Report Date: September 18, 2018 - 01:10 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Riverbend 12-13 Federal Com #30H / Cimarex Riverbend 12-13 Federal Com #30H
Well: Cimarex Riverbend 12-13 Federal Com #30H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Final Survey - Cimarex Riverbend 12-13 Federal Com #30H MWD 0ft-20738ft (Surcon Corrected)
Survey Date: August 15, 2018
Tort / AHD / DDI / ERD Ratio: 280.894 * / 12213.183 ft / 6.863 / 1.252
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 9' 21.01079", W 104° 2' 42.01248"
Location Grid N/E Y/X: N 420548.000 RUS, E 630564.980 RUS
CRS Grid Convergence Angle: 0.1535 °
Grid Scale Factor: 0.99991821
Version / Patch: 2.10.740.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.781 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 2950.600 ft above MSL
Seabed / Ground Elevation: 2937.600 ft above MSL
Magnetic Declination: 7.104 °
Total Gravity Field Strength: 998.4600mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47955.148 nT
Magnetic Dip Angle: 59.906 °
Declination Date: September 04, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.1535 °
Total Corr Mag North->Grid: 6.9502 °
North: Well Head
Local Coord Referenced To: Well Head

**NM OIL CONSERVATION
ARTESIA DISTRICT**

FEB 19 2019

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Comments	MD (ft)	Incl (°)	Azimuth (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northings (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL [1378' FSL, 1378' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	420548.00	630564.98	N 32 9 21.01 W 104	2 42.01
	213.00	0.94	279.17	212.99	-0.29	0.28	-1.72	0.44	420548.28	630563.28	N 32 9 21.01 W 104	2 42.03
	304.00	1.00	251.14	303.98	-0.15	0.14	-3.21	0.52	420548.14	630561.77	N 32 9 21.01 W 104	2 42.05
	367.00	0.78	288.16	366.97	-0.11	0.10	-4.14	0.96	420548.10	630560.84	N 32 9 21.01 W 104	2 42.06
	509.00	1.02	305.52	508.95	-1.16	1.13	-6.09	0.25	420548.13	630558.89	N 32 9 21.02 W 104	2 42.08
	570.00	1.00	312.66	569.94	-1.83	1.81	-8.92	0.21	420549.81	630558.08	N 32 9 21.03 W 104	2 42.09
	663.00	2.01	240.27	662.92	-1.58	1.55	-8.93	2.10	420549.55	630556.05	N 32 9 21.03 W 104	2 42.12
	840.00	2.56	246.91	839.78	1.48	-1.54	-15.27	0.34	420548.48	630549.71	N 32 9 21.00 W 104	2 42.16
	934.00	2.08	230.17	933.70	3.39	-3.46	-18.51	0.88	420544.54	630546.47	N 32 9 20.98 W 104	2 42.23
	1028.00	1.84	195.64	1027.65	5.92	-6.00	-20.22	1.26	420542.00	630544.78	N 32 9 20.95 W 104	2 42.25
	1124.00	2.95	134.48	1123.58	9.15	-9.22	-18.88	2.73	420538.78	630546.10	N 32 9 20.92 W 104	2 42.23
	1218.00	3.07	123.52	1217.45	12.24	-12.30	-15.05	0.62	420535.70	630549.93	N 32 9 20.89 W 104	2 42.19
	1313.00	2.91	123.02	1312.32	14.98	-15.02	-10.91	0.17	420532.98	630554.07	N 32 9 20.86 W 104	2 42.14
	1408.00	1.95	102.41	1407.23	16.65	-16.68	-7.31	1.35	420531.32	630557.07	N 32 9 20.85 W 104	2 42.10
	1502.00	0.71	16.99	1501.21	16.45	-16.47	-5.58	2.15	420531.53	630559.40	N 32 9 20.85 W 104	2 42.08
	1597.00	1.57	328.95	1596.19	14.77	-14.79	-6.08	1.28	420533.21	630558.90	N 32 9 20.86 W 104	2 42.08
	1692.00	1.96	325.03	1691.15	12.32	-12.35	-7.68	0.43	420535.66	630557.30	N 32 9 20.89 W 104	2 42.10
	1787.00	2.36	319.63	1786.08	9.49	-9.52	-9.88	0.47	420538.48	630555.10	N 32 9 20.82 W 104	2 42.13
	1881.00	1.32	335.22	1880.03	7.02	-7.07	-11.58	1.22	420540.93	630553.69	N 32 9 20.94 W 104	2 42.15
	1975.00	0.91	86.39	1974.02	5.99	-6.04	-11.29	1.97	420541.96	630553.69	N 32 9 20.95 W 104	2 42.14
	2068.00	2.15	100.67	2068.99	6.28	-6.31	-8.84	1.38	420541.69	630556.14	N 32 9 20.95 W 104	2 42.12
	2163.00	1.41	112.72	2161.94	7.07	-7.09	-6.01	0.87	420540.91	630558.97	N 32 9 20.94 W 104	2 42.08
	2258.00	1.55	111.23	2258.91	8.00	-8.01	-3.74	0.15	420539.99	630561.24	N 32 9 20.93 W 104	2 42.06
	2353.00	2.56	121.84	2351.85	9.59	-9.60	-0.74	1.13	420538.41	630564.24	N 32 9 20.92 W 104	2 42.02
	2447.00	2.34	129.99	2445.76	11.95	-11.94	2.52	0.44	420536.07	630567.50	N 32 9 20.89 W 104	2 41.98
	2541.00	2.00	265.78	2539.73	13.30	-13.29	2.35	4.28	420534.71	630567.33	N 32 9 20.88 W 104	2 41.99
	2594.00	2.66	269.98	2592.72	13.31	-13.31	1.82	5.24	420534.69	630568.80	N 32 9 20.88 W 104	2 41.99
	2725.00	3.94	279.38	2718.34	12.32	-12.35	-7.94	0.81	420535.65	630557.04	N 32 9 20.89 W 104	2 42.11
	2820.00	0.86	293.99	2823.44	11.48	-11.53	-11.81	3.28	420536.47	630553.17	N 32 9 20.90 W 104	2 42.15
	2914.00	0.60	294.84	2912.33	10.98	-11.04	-12.90	0.28	420536.97	630552.08	N 32 9 20.90 W 104	2 42.16
	3009.00	0.44	344.36	3007.33	10.42	-10.48	-13.45	0.48	420537.53	630551.53	N 32 9 20.91 W 104	2 42.17
	3103.00	0.94	61.64	3101.32	9.71	-9.76	-12.87	1.01	420538.24	630552.11	N 32 9 20.91 W 104	2 42.16
	3197.00	0.95	61.05	3195.31	8.97	-9.02	-11.51	0.01	420538.98	630553.47	N 32 9 20.92 W 104	2 42.15
	3291.00	0.93	68.77	3289.30	8.29	-8.33	-10.14	0.09	420539.87	630554.85	N 32 9 20.93 W 104	2 42.13
	3386.00	2.58	97.58	3384.25	8.27	-8.29	-7.31	1.95	420539.71	630557.67	N 32 9 20.93 W 104	2 42.10
	3481.00	4.56	104.61	3479.06	9.52	-9.53	-1.54	2.13	420538.47	630563.44	N 32 9 20.92 W 104	2 42.03
	3575.00	5.75	105.78	3572.68	11.78	-11.75	6.61	1.27	420536.25	630571.59	N 32 9 20.89 W 104	2 41.94
	3669.00	7.22	116.05	3666.08	15.69	-15.63	16.45	1.99	420532.38	630581.43	N 32 9 20.86 W 104	2 41.82
	3763.00	8.98	122.64	3759.14	22.28	-22.18	27.93	2.11	420525.82	630592.91	N 32 9 20.79 W 104	2 41.69
	3858.00	11.05	131.41	3852.70	32.38	-32.20	41.01	2.70	420515.80	630605.98	N 32 9 20.69 W 104	2 41.54
	3954.00	12.90	131.30	3946.60	45.57	-45.36	55.96	1.93	420502.64	630620.93	N 32 9 20.56 W 104	2 41.38
	4049.00	12.88	131.69	4039.21	59.67	-59.40	71.83	0.09	420488.60	630638.81	N 32 9 20.42 W 104	2 41.18
	4143.00	13.03	131.30	4130.82	73.70	-73.36	87.62	0.18	420474.64	630652.59	N 32 9 20.28 W 104	2 41.00
	4238.00	13.27	130.78	4223.32	87.95	-87.55	103.92	0.28	420460.48	630668.89	N 32 9 20.14 W 104	2 40.81
	4333.00	13.46	130.35	4315.75	102.29	-101.83	120.60	0.23	420448.18	630685.57	N 32 9 20.00 W 104	2 40.61
	4427.00	13.61	129.82	4407.14	116.52	-116.00	137.43	0.21	420432.01	630702.40	N 32 9 19.86 W 104	2 40.42
	4521.00	12.29	129.48	4498.75	130.03	-129.44	153.65	1.41	420418.57	630718.82	N 32 9 19.73 W 104	2 40.23
	4616.00	12.08	129.58	4591.61	142.85	-142.20	169.12	0.22	420405.81	630734.08	N 32 9 19.60 W 104	2 40.05
	4710.00	12.37	128.84	4683.48	155.49	-154.79	184.54	0.35	420393.23	630749.50	N 32 9 19.47 W 104	2 39.87
	4804.00	12.51	128.29	4775.27	168.17	-167.41	200.37	0.20	420380.61	630765.34	N 32 9 19.35 W 104	2 39.69
	4898.00	12.55	128.44	4867.03	180.89	-180.07	216.36	0.05	420367.95	630781.32	N 32 9 19.22 W 104	2 39.50
	4993.00	12.60	128.23	4959.75	193.78	-192.89	232.59	0.07	420355.12	630797.55	N 32 9 19.10 W 104	2 39.31
	5088.00	12.99	133.28	5052.40	207.58	-206.63	248.50	1.25	420341.39	630813.46	N 32 9 18.96 W 104	2 39.13
	5182.00	12.84	134.35	5144.02	222.18	-221.17	263.66	0.30	420328.85	630828.82	N 32 9 18.82 W 104	2 38.95
	5277.00	12.06	133.47	5236.78	236.44	-235.38	278.41	0.84	420312.64	630843.37	N 32 9 18.67 W 104	2 38.78
	5371.00	11.85	132.61	5328.78	249.68	-248.56	292.52	0.47	420299.46	630857.48	N 32 9 18.54 W 104	2 38.62
	5465.00	11.67	132.72	5420.84	262.80	-261.43	306.49	0.03	420286.59	630871.45	N 32 9 18.42 W 104	2 38.46
	5559.00	11.14	131.82	5512.98	275.16	-273.94	320.24	0.59	420274.08	630885.20	N 32 9 18.29 W 104	2 38.30
	5654.00	11.30	131.23	5606.17	287.47	-286.19	334.08	0.21	420261.83	630899.04	N 32 9 18.17 W 104	2 38.14
	5748.00	11.27	131.11	5698.35	299.83	-298.30	347.83	0.04	420248.72	630912.88	N 32 9 18.05 W 104	2 37.97
	5843.00	11.19	130.70	5791.53	311.80	-310.42	361.91	0.12	420237.61	630926.86	N 32 9 17.93 W 104	2 37.81
	5935.00	10.94	130.48	5881.82	323.34	-321.91	375.32	0.28	420226.12	630940.27	N 32 9 17.82 W 104	2 37.66
	6030.00	10.45	128.95	5975.17	334.66	-333.17	388.88	0.60	420214.85	630953.83	N 32 9 17.70 W 104	2 37.50
	6124.00	11.33	125.75	6067.48	345.47	-343.93	403.00	1.14	420204.10	630967.95	N 32 9 17.60 W 104	2 37.34
	6219.00	12.33	126.42	6160.46	357.00	-355.40	418.74	1.06	420192.63	630983.68	N 32 9 17.48 W 104	2 37.15
	6314.00	12.59	128.44	6253.22	369.52	-367.88	435.01	0.53	420180.17	630999.95	N 32 9 17.36 W 104	2 36.96
	6409.00	12.30	131.76	6345.99	382.76	-381.04	450.67	0.81	420166.99	631015.61	N 32 9 17.23 W 104	2 36.78
	6504.00	11.07	130.35	6439.02	395.46	-393.68	465.17	1.33	420154.35	631030.11	N 32 9 17.10 W 104	2 36.61
	6599.00	9.58	135.41	6532.48	407.04	-405.22	477.67	1.83	420142.82	631042.61	N 32 9 16.99 W 104	2 36.47
	6692.00	8.78	134.36	6624.29	417.55	-415.69	488.18	0.88	420132.34	631053.12	N 32 9 16.88 W 104	2 36.35
	6787.00	11.05	134.74	6717.86	429.08	-427.17	499.83	2.39	420120.87	631064.77	N 32 9 16.77 W 104	2 36.21
	6882.00	11.53	121.85	6811.04	440.55	-438.59	514.36	2.70	420109.45	631079.30	N 32 9 16.66 W 104	2

Comments	MD	Incl	Azth Grid	TVD	VBEC	NS	EW	DLS	Northing	Easting	Latitude	Longitude
	(m)	(°)	(°)	(m)	(m)	(m)	(m)	(1/1000)	(NUS)	(EUS)	(N 30° E)	(E/W 111° E)
	7168.00	10.82	123.51	7089.37	471.94	-469.79	561.42	0.90	42007.25	631126.35	N 32 9 16.35 W 104	2 33.50
	7261.00	9.63	121.45	7127.86	481.06	-478.86	575.63	1.31	42008.18	631140.96	N 32 9 16.28 W 104	2 33.33
	7356.00	8.06	115.37	7276.73	488.11	-485.86	588.43	1.92	42006.21	631153.36	N 32 9 16.19 W 104	2 33.33
	7451.00	8.12	118.00	7370.78	493.95	-491.66	600.48	0.11	42005.36	631165.41	N 32 9 16.13 W 104	2 33.04
	7544.00	7.90	115.68	7462.87	499.84	-497.31	612.14	0.24	42005.07	631177.07	N 32 9 16.07 W 104	2 34.91
	7638.00	7.97	115.76	7555.97	505.32	-502.94	623.83	0.08	42004.51	631188.76	N 32 9 16.02 W 104	2 34.77
	7732.00	8.92	114.47	7648.18	510.34	-508.12	634.86	1.13	42003.93	631199.78	N 32 9 15.97 W 104	2 34.64
	7827.00	6.28	111.06	7743.55	515.07	-512.81	644.82	0.87	42003.44	631210.74	N 32 9 15.92 W 104	2 34.33
	7921.00	4.79	108.48	7837.11	518.51	-516.02	654.82	0.66	42002.95	631221.18	N 32 9 15.86 W 104	2 34.35
	8016.00	4.30	106.21	7931.61	523.97	-518.45	664.84	0.33	42002.59	631232.17	N 32 9 15.80 W 104	2 34.27
	8110.00	4.66	113.62	8025.52	529.37	-521.08	674.79	0.79	42002.48	631243.18	N 32 9 15.74 W 104	2 34.19
	8205.00	5.37	131.16	8120.18	534.75	-523.36	684.70	1.23	42001.89	631254.12	N 32 9 15.65 W 104	2 34.12
	8299.00	5.68	142.72	8213.73	540.18	-525.37	694.62	0.36	42001.33	631265.45	N 32 9 15.58 W 104	2 34.06
	8394.00	3.42	145.09	8308.68	545.35	-527.35	704.54	0.29	42000.88	631276.84	N 32 9 15.52 W 104	2 33.95
	8489.00	3.06	152.55	8403.68	550.77	-529.37	714.46	1.39	41999.84	631288.29	N 32 9 15.47 W 104	2 33.87
	8583.00	2.62	164.96	8498.58	555.82	-531.37	724.38	1.60	41998.88	631299.74	N 32 9 15.42 W 104	2 33.82
	8677.00	2.18	181.89	8593.43	560.78	-533.40	734.30	0.48	41997.92	631311.18	N 32 9 15.37 W 104	2 33.77
	8772.00	2.05	178.39	8688.34	565.79	-535.43	744.22	0.63	41997.00	631322.61	N 32 9 15.32 W 104	2 33.72
	8867.00	1.63	186.66	8783.22	570.79	-537.46	754.14	0.50	41996.08	631334.03	N 32 9 15.27 W 104	2 33.67
	8962.00	1.38	191.95	8878.10	575.84	-539.49	764.06	0.40	41995.16	631345.45	N 32 9 15.22 W 104	2 33.62
	9057.00	1.41	207.80	8972.98	580.87	-541.52	773.98	0.38	41994.24	631356.87	N 32 9 15.17 W 104	2 33.57
	9152.00	1.40	210.33	9067.86	585.90	-543.55	783.90	0.40	41993.32	631368.29	N 32 9 15.12 W 104	2 33.52
	9247.00	1.34	195.37	9162.74	590.92	-545.58	793.82	0.25	41992.40	631379.71	N 32 9 15.07 W 104	2 33.47
	9342.00	3.21	148.93	9257.62	595.95	-547.61	803.74	1.13	41991.48	631391.13	N 32 9 15.02 W 104	2 33.42
	9437.00	6.51	134.75	9352.50	600.97	-549.64	813.66	8.01	41990.56	631402.55	N 32 9 14.97 W 104	2 33.37
	9532.00	28.45	130.04	9447.38	605.99	-551.67	823.58	10.90	41989.64	631413.97	N 32 9 14.92 W 104	2 33.32
	9627.00	32.16	124.86	9542.26	610.99	-553.70	833.50	14.59	41988.72	631425.39	N 32 9 14.87 W 104	2 33.27
	9722.00	10.42	124.86	9637.14	615.99	-555.73	843.42	12.52	41987.80	631436.81	N 32 9 14.82 W 104	2 33.22
	9817.00	40.50	132.28	9732.02	620.99	-557.76	853.34	14.94	41986.88	631448.23	N 32 9 14.77 W 104	2 33.17
	9912.00	46.67	135.87	9826.90	625.99	-559.79	863.26	10.85	41985.96	631459.65	N 32 9 14.72 W 104	2 33.12
	10007.00	44.83	139.55	9921.78	630.99	-561.82	873.18	14.41	41985.04	631471.07	N 32 9 14.67 W 104	2 33.07
	10102.00	48.70	145.30	10016.66	635.99	-563.85	883.10	12.61	41984.12	631482.49	N 32 9 14.62 W 104	2 33.02
	10197.00	51.09	149.55	10111.54	640.99	-565.88	893.02	12.30	41983.20	631493.91	N 32 9 14.57 W 104	2 32.97
	10292.00	53.38	153.41	10206.42	645.99	-567.91	902.94	14.57	41982.28	631505.33	N 32 9 14.52 W 104	2 32.92
	10387.00	56.21	157.72	10301.30	650.99	-569.94	912.86	13.49	41981.36	631516.75	N 32 9 14.47 W 104	2 32.87
	10482.00	58.73	161.88	10396.18	655.99	-571.97	922.78	11.52	41980.44	631528.17	N 32 9 14.42 W 104	2 32.82
	10577.00	60.06	165.73	10491.06	660.99	-574.00	932.70	16.38	41979.52	631539.59	N 32 9 14.37 W 104	2 32.77
	10672.00	61.22	171.64	10585.94	665.99	-576.03	942.62	11.03	41978.60	631551.01	N 32 9 14.32 W 104	2 32.72
	10767.00	63.59	174.64	10680.82	670.99	-578.06	952.54	10.44	41977.68	631562.43	N 32 9 14.27 W 104	2 32.67
	10862.00	65.46	177.39	10775.70	675.99	-580.09	962.46	13.77	41976.76	631573.85	N 32 9 14.22 W 104	2 32.62
	10957.00	68.26	181.09	10870.58	680.99	-582.12	972.38	10.47	41975.84	631585.27	N 32 9 14.17 W 104	2 32.57
	11052.00	78.12	184.45	10965.46	685.99	-584.15	982.30	6.16	41974.92	631596.69	N 32 9 14.12 W 104	2 32.52
	11147.00	81.82	185.64	11060.34	690.99	-586.18	992.22	4.88	41974.00	631608.11	N 32 9 14.07 W 104	2 32.47
	11242.00	86.25	184.84	11155.22	695.99	-588.21	1002.14	3.48	41973.08	631619.53	N 32 9 14.02 W 104	2 32.42
	11337.00	88.07	184.84	11250.10	700.99	-590.24	1012.06	2.39	41972.16	631630.95	N 32 9 13.97 W 104	2 32.37
	11432.00	88.90	180.67	11345.00	705.99	-592.27	1021.98	2.27	41971.24	631642.37	N 32 9 13.92 W 104	2 32.32
	11527.00	88.52	180.18	11439.88	710.99	-594.30	1031.90	2.27	41970.32	631653.79	N 32 9 13.87 W 104	2 32.27
	11622.00	87.59	178.88	11534.76	715.99	-596.33	1041.82	2.24	41969.40	631665.21	N 32 9 13.82 W 104	2 32.22
	11717.00	88.25	177.07	11629.64	720.99	-598.36	1051.74	0.35	41968.48	631676.63	N 32 9 13.77 W 104	2 32.17
	11812.00	89.76	177.07	11724.52	725.99	-600.39	1061.66	2.03	41967.56	631688.05	N 32 9 13.72 W 104	2 32.12
	11907.00	90.14	177.12	11819.40	730.99	-602.42	1071.58	2.03	41966.64	631699.47	N 32 9 13.67 W 104	2 32.07
	12002.00	90.24	177.45	11914.28	735.99	-604.45	1081.50	0.37	41965.72	631710.89	N 32 9 13.62 W 104	2 32.02
	12097.00	90.10	179.77	12009.16	740.99	-606.48	1091.42	0.37	41964.80	631722.31	N 32 9 13.57 W 104	2 31.97
	12192.00	90.21	179.47	12104.04	745.99	-608.51	1101.34	0.34	41963.88	631733.73	N 32 9 13.52 W 104	2 31.92
	12287.00	90.41	179.48	12198.92	750.99	-610.54	1111.26	0.31	41962.96	631745.15	N 32 9 13.47 W 104	2 31.87
	12382.00	90.24	179.78	12293.80	755.99	-612.57	1121.18	0.37	41962.04	631756.57	N 32 9 13.42 W 104	2 31.82
	12477.00	88.90	179.35	12388.68	760.99	-614.60	1131.10	0.58	41961.12	631767.99	N 32 9 13.37 W 104	2 31.77
	12572.00	88.80	179.35	12483.56	765.99	-616.63	1141.02	1.17	41960.20	631779.41	N 32 9 13.32 W 104	2 31.72
	12667.00	90.65	178.95	12578.44	770.99	-618.66	1150.94	2.07	41959.28	631790.83	N 32 9 13.27 W 104	2 31.67
	12762.00	90.88	178.95	12673.32	775.99	-620.69	1160.86	0.49	41958.36	631802.25	N 32 9 13.22 W 104	2 31.62
	12857.00	90.95	178.34	12768.20	780.99	-622.72	1170.78	0.24	41957.44	631813.67	N 32 9 13.17 W 104	2 31.57
	12952.00	91.05	178.34	12863.08	785.99	-624.75	1180.70	0.49	41956.52	631825.09	N 32 9 13.12 W 104	2 31.52
	13047.00	91.07	178.19	12957.96	790.99	-626.78	1190.62	0.51	41955.60	631836.51	N 32 9 13.07 W 104	2 31.47
	13142.00	91.07	178.61	13052.84	795.99	-628.81	1200.54	0.46	41954.68	631847.93	N 32 9 13.02 W 104	2 31.42
	13237.00	90.55	178.61	13147.72	800.99	-630.84	1210.46	0.55	41953.76	631859.35	N 32 9 12.97 W 104	2 31.37
	13332.00	91.14	178.39	13242.60	805.99	-632.87	1220.38	0.69	41952.84	631870.77	N 32 9 12.92 W 104	2 31.32
	13427.00	90.96	178.50	13337.48	810.99	-634.90	1230.30	0.75	41951.92	631882.19	N 32 9 12.87 W 104	2 31.27
	13522.00	90.76	178.14	13432.36	815.99	-636.93	1240.22	0.83	41951.00	631893.61	N 32 9 12.82 W 104	2 31.22
	13617.00	90.76	178.14	13527.24	820.99	-638.96	1250.14	0.83	41950.08	631905.03	N 32 9 12.77 W 104	2 31.17
	13712.00	91.17	178.13	13622.12	825.99	-640.99	1260.06	0.44	41949.16	631916.45	N 32 9 12.72 W 104	2 31.12
	13807.00	90.17	178.13	13717.00	830.99	-643.02	1270.00	1.10	41948.24	631927.87	N 32 9 12.67 W 104	2 31.07
	13902.00	90.14	178.17	13811.88	835.99	-645.05	1280.00	0.53	41947.32	631939.29	N 32 9 12.62 W 104	2 31.02
	14000.00	90.17	178.67	13906.76	840.99	-647.08	1290.00	0.48	41946.40	631950.71	N 32 9 12.57 W 104	2 30.97
	14095.00	90.10	178.24	14001.64	845.99	-649.11	1300.00	0.48	41945.48	631962.13	N 32 9 12.52 W 104	2 30.92
	14190.00	88.52	178.94	14096.52	850.99	-651.14	1310.00	0.75	41944.56	631973.55	N 32 9 12.47 W 104	2 30.87
	14285.00	89.52	178.42	14191.40	855.99	-653.17	1320.00	0.80	41943.64	631984.97	N 32 9 12.42 W 104	2 30.82
	14380.00	88.93	178.96	14286.28	860.99	-655.20	1330.00	0.28	41942.72	631996.		

Comments	MD	Incl	Adj. Grid	TVD	VSEC	NS	EW	DLS	Northing	Easting	Latitude	Longitude
	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(1/1000)	(ft)	(ft)	(N 32 8 23.78 W 104 231.60)	(E 104 231.60)
	14827.00	90.38	179.80	9752.48	5784.82	-5781.39	910.59	0.07	411673.10	631475.49	N 32 8 23.78 W 104 231.60	231.60
	14921.00	90.28	179.69	9751.93	5878.82	-5875.38	911.01	0.16	414673.11	631475.91	N 32 8 22.85 W 104 231.60	231.60
	15014.00	90.21	179.52	9751.54	5971.82	-5968.38	911.65	0.20	414580.12	631476.55	N 32 8 21.83 W 104 231.60	231.60
	15108.00	89.90	179.77	9751.45	6065.82	-6062.38	912.23	0.42	414486.13	631477.13	N 32 8 21.00 W 104 231.59	231.59
	15202.00	90.21	179.20	9751.36	6159.82	-6156.37	913.08	0.69	414392.14	631477.88	N 32 8 20.07 W 104 231.59	231.59
	15296.00	90.17	179.70	9751.04	6253.82	-6250.37	913.98	0.53	414298.15	631478.86	N 32 8 19.14 W 104 231.58	231.58
	15390.00	90.31	179.67	9750.65	6347.82	-6344.37	914.49	0.15	414204.16	631479.40	N 32 8 18.21 W 104 231.57	231.57
	15485.00	90.14	180.00	9750.28	6442.82	-6439.37	914.77	0.39	414109.17	631479.87	N 32 8 17.27 W 104 231.57	231.57
	15578.00	90.21	179.36	9749.99	6535.81	-6532.36	915.79	0.69	414016.18	631480.19	N 32 8 16.35 W 104 231.57	231.57
	15672.00	90.07	178.54	9749.76	6629.81	-6626.36	916.19	0.24	413922.20	631481.09	N 32 8 15.42 W 104 231.56	231.56
	15766.00	89.79	179.78	9749.68	6723.81	-6720.36	916.75	0.39	413828.21	631481.65	N 32 8 14.49 W 104 231.56	231.56
	15859.00	89.10	179.54	9750.32	6816.81	-6813.35	917.71	0.80	413735.22	631482.61	N 32 8 13.57 W 104 231.54	231.54
	16047.00	89.97	179.49	9750.25	6910.80	-6907.34	919.67	0.63	413641.24	631483.77	N 32 8 12.64 W 104 231.54	231.54
	16141.00	90.07	179.56	9750.22	7004.80	-7001.34	919.87	0.15	413547.25	631484.57	N 32 8 11.71 W 104 231.54	231.54
	16235.00	89.12	179.93	9750.02	7192.80	-7189.34	920.44	0.13	413453.26	631485.75	N 32 8 10.78 W 104 231.53	231.53
	16329.00	89.52	179.63	9750.28	7286.80	-7283.33	921.19	0.77	413359.27	631486.09	N 32 8 9.85 W 104 231.53	231.53
	16422.00	90.69	179.94	9750.11	7379.80	-7376.33	921.54	1.30	413265.28	631486.76	N 32 8 8.92 W 104 231.53	231.53
	16516.00	90.38	179.65	9749.23	7473.80	-7470.33	921.86	0.45	413172.28	631487.00	N 32 8 7.97 W 104 231.52	231.52
	16610.00	90.58	180.08	9748.44	7567.79	-7564.32	922.10	0.30	413078.30	631487.25	N 32 8 6.94 W 104 231.52	231.52
	16703.00	90.17	179.77	9747.83	7661.79	-7658.32	922.22	0.35	412984.31	631487.50	N 32 8 5.91 W 104 231.53	231.53
	16797.00	90.00	180.10	9747.69	7755.79	-7752.32	922.33	0.39	412890.32	631487.75	N 32 8 4.98 W 104 231.53	231.53
	16891.00	89.55	179.85	9748.06	7849.79	-7846.32	922.44	0.55	412796.34	631488.00	N 32 8 3.95 W 104 231.52	231.52
	16985.00	90.10	179.66	9748.35	7943.78	-7940.32	923.10	0.52	412702.35	631488.25	N 32 8 2.92 W 104 231.52	231.52
	17078.00	89.93	180.18	9748.35	8037.78	-8034.32	923.10	0.52	412608.36	631488.50	N 32 8 1.89 W 104 231.51	231.51
	17173.00	89.28	179.59	9748.98	8131.78	-8128.32	924.71	1.14	412514.37	631488.75	N 32 7.86 W 104 231.51	231.51
	17267.00	90.17	179.85	9748.16	8225.78	-8222.32	925.33	0.07	412420.38	631489.00	N 32 6.83 W 104 231.51	231.51
	17361.00	90.21	179.63	9748.16	8319.78	-8316.32	925.33	0.08	412326.39	631489.25	N 32 5.80 W 104 231.51	231.51
	17455.00	88.38	179.59	9748.39	8413.78	-8410.32	925.88	0.08	412232.40	631489.50	N 32 4.77 W 104 231.51	231.51
	17549.00	88.78	179.65	9748.23	8507.77	-8504.32	926.88	0.92	412138.41	631489.75	N 32 3.74 W 104 231.51	231.51
	17643.00	90.10	179.82	9748.91	8601.77	-8598.32	927.06	0.37	412044.42	631490.00	N 32 2.71 W 104 231.51	231.51
	17737.00	90.10	179.35	9748.07	8695.77	-8692.32	928.07	0.37	411950.43	631490.25	N 32 1.68 W 104 231.51	231.51
	17831.00	88.11	179.22	9747.21	8789.77	-8786.32	929.07	0.37	411856.44	631490.50	N 32 0.65 W 104 231.51	231.51
	17925.00	89.93	179.32	9747.31	8883.77	-8880.32	929.80	2.73	411762.45	631490.75	N 32 0.62 W 104 231.51	231.51
	18019.00	90.28	180.00	9747.00	8977.77	-8974.32	930.80	0.67	411668.46	631491.00	N 32 0.59 W 104 231.51	231.51
	18113.00	89.52	180.00	9746.68	9071.77	-9068.32	931.80	0.96	411574.47	631491.25	N 32 0.56 W 104 231.51	231.51
	18207.00	89.52	180.00	9746.68	9165.77	-9162.32	932.80	0.96	411480.48	631491.50	N 32 0.53 W 104 231.51	231.51
	18301.00	89.52	180.00	9746.68	9259.77	-9256.32	933.80	0.96	411386.49	631491.75	N 32 0.50 W 104 231.51	231.51
	18395.00	89.52	180.00	9746.68	9353.77	-9350.32	934.80	0.96	411292.50	631492.00	N 32 0.47 W 104 231.51	231.51
	18489.00	89.52	180.00	9746.68	9447.77	-9444.32	935.80	0.96	411198.51	631492.25	N 32 0.44 W 104 231.51	231.51
	18583.00	89.52	180.00	9746.68	9541.77	-9538.32	936.80	0.96	411104.52	631492.50	N 32 0.41 W 104 231.51	231.51
	18677.00	89.52	180.00	9746.68	9635.77	-9632.32	937.80	0.96	411010.53	631492.75	N 32 0.38 W 104 231.51	231.51
	18771.00	89.52	180.00	9746.68	9729.77	-9726.32	938.80	0.96	410916.54	631493.00	N 32 0.35 W 104 231.51	231.51
	18865.00	89.52	180.00	9746.68	9823.77	-9820.32	939.80	0.96	410822.55	631493.25	N 32 0.32 W 104 231.51	231.51
	18959.00	89.52	180.00	9746.68	9917.77	-9914.32	940.80	0.96	410728.56	631493.50	N 32 0.29 W 104 231.51	231.51
	19053.00	89.52	180.00	9746.68	10011.77	-10008.32	941.80	0.96	410634.57	631493.75	N 32 0.26 W 104 231.51	231.51
	19147.00	89.52	180.00	9746.68	10105.77	-10102.32	942.80	0.96	410540.58	631494.00	N 32 0.23 W 104 231.51	231.51
	19241.00	89.52	180.00	9746.68	10199.77	-10196.32	943.80	0.96	410446.59	631494.25	N 32 0.20 W 104 231.51	231.51
	19335.00	89.52	180.00	9746.68	10293.77	-10290.32	944.80	0.96	410352.60	631494.50	N 32 0.17 W 104 231.51	231.51
	19429.00	89.52	180.00	9746.68	10387.77	-10384.32	945.80	0.96	410258.61	631494.75	N 32 0.14 W 104 231.51	231.51
	19523.00	89.52	180.00	9746.68	10481.77	-10478.32	946.80	0.96	410164.62	631495.00	N 32 0.11 W 104 231.51	231.51
	19617.00	89.52	180.00	9746.68	10575.77	-10572.32	947.80	0.96	410070.63	631495.25	N 32 0.08 W 104 231.51	231.51
	19711.00	89.52	180.00	9746.68	10669.77	-10666.32	948.80	0.96	410076.64	631495.50	N 32 0.05 W 104 231.51	231.51
	19805.00	89.52	180.00	9746.68	10763.77	-10760.32	949.80	0.96	410082.65	631495.75	N 32 0.02 W 104 231.51	231.51
	19899.00	89.52	180.00	9746.68	10857.77	-10854.32	950.80	0.96	410088.66	631496.00	N 32 0.00 W 104 231.51	231.51
	19993.00	89.52	180.00	9746.68	10951.77	-10948.32	951.80	0.96	410094.67	631496.25	N 32 0.00 W 104 231.51	231.51
	20087.00	89.52	180.00	9746.68	11045.77	-11042.32	952.80	0.96	410100.68	631496.50	N 32 0.00 W 104 231.51	231.51
	20181.00	89.52	180.00	9746.68	11139.77	-11136.32	953.80	0.96	410106.69	631496.75	N 32 0.00 W 104 231.51	231.51
	20275.00	89.52	180.00	9746.68	11233.77	-11230.32	954.80	0.96	410112.70	631497.00	N 32 0.00 W 104 231.51	231.51
	20369.00	89.52	180.00	9746.68	11327.77	-11324.32	955.80	0.96	410118.71	631497.25	N 32 0.00 W 104 231.51	231.51
	20463.00	89.52	180.00	9746.68	11421.77	-11418.32	956.80	0.96	410124.72	631497.50	N 32 0.00 W 104 231.51	231.51
	20557.00	89.52	180.00	9746.68	11515.77	-11512.32	957.80	0.96	410130.73	631497.75	N 32 0.00 W 104 231.51	231.51
	20651.00	89.52	180.00	9746.68	11609.77	-11606.32	958.80	0.96	410136.74	631498.00	N 32 0.00 W 104 231.51	231.51
	20745.00	89.52	180.00	9746.68	11703.77	-11700.32	959.80	0.96	410142.75	631498.25	N 32 0.00 W 104 231.51	231.51
	20839.00	89.52	180.00	9746.68	11797.77	-11794.32	960.80	0.96	410148.76	631498.50	N 32 0.00 W 104 231.51	231.51
	20933.00	89.52	180.00	9746.68	11891.77	-11888.32	961.80	0.96	410154.77	631498.75	N 32 0.00 W 104 231.51	231.51
	21027.00	89.52	180.00	9746.68	11985.77	-11982.32	962.80	0.96	410160.78	631499.00	N 32 0.00 W 104 231.51	231.51
	21121.00	89.52	180.00	9746.68	12079.77	-12076.32	963.80	0.96	410166.79	631499.25	N 32 0.00 W 104 231.51	231.51
	21215.00	89.52	180.00	9746.68	12173.77	-12170.32	964.80	0.96	410172.80	631499.50	N 32 0.00 W 104 231.51	231.51
	21309.00	89.52	180.00	9746.68	12267.77	-12264.32	965.80	0.96	410178.81	631499.75	N 32 0.00 W 104 231.51	231.51
	21403.00	89.52	180.00	9746.68	12361.77	-12358.32	966.80	0.96	410184.82	631500.00	N 32 0.00 W 104 231.51	231.51
	21497.00	89.52	180.00	9746.68	12455.77	-12452.32	967.80	0.96	410190.83	631500.25	N 32 0.00 W 104 231.51	231.51
	21591.00	89.52	180.00	9746.68	12549.77	-12546.32	968.80	0.96	410196.84	631500.50	N 32 0.00 W 104 231.51	231.51
	21685.00	89.52	180.00	9746.68	12643.77	-12640.32	969.80	0.96	410202.85	631500.75	N 32 0.00 W 104 231.51	231.51
	21779.00	89.52	180.00	9746.68	12737.77	-12734.32	970.80	0.96	410208.86	631501.00	N	

